

Listing of Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (currently amended) A semiconductor apparatus fabrication method, comprising the steps of:

forming a resist pattern;

forming a film whose heat-resistance temperature is higher than softening temperature of said resist pattern so as to ~~cover~~ spatially define sidewall surfaces of said resist pattern;

heating said resist pattern at a temperature higher than said softening temperature of the resist pattern and lower than said heat-resistance temperature of the film in a state where said film ~~covers~~ restricts said resist pattern in order to cause reflow;

removing said film; and

patterning an underlayer of said resist pattern by using said resist pattern in which said reflow is caused as a mask.

2. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said film is an organic film whose softening temperature, which serves as said heat-resistance temperature, is higher than said softening temperature of the resist pattern.

3. (original) The semiconductor apparatus fabrication method as claimed in claim 2, wherein said organic film is soluble in one of an organic solvent and water.

4. (original) The semiconductor apparatus fabrication method as claimed in claim 3, wherein said organic film is selected from a group of polyacrylic acid, polyvinylacetal,

polyvinylpyrrolidone, polyvinylalcohol, polyethyleneimine, polyethyleneoxide, styrene-(anhydrous) maleic acid copolymer, methylvinylether-(anhydrous) maleic acid copolymer, polyvinyl amine resin, polyallylamine, water soluble oxazoline group containing resin, water soluble melamine resin, water soluble urea resin, alkyd resin, and sulfonamide resin.

5. (original) The semiconductor apparatus fabrication method as claimed in claim 3, wherein said organic film is selected from a group of polyimide, polyacetal, polybutylene terephthalate, polyethylene terephthalate, syndiotactic polystyrene, poly phenylene sulfide, polyetherether ketone, liquid crystal polymer, fluorine resin, polyethernitrile, polycarbonate, modified poly phenyleneether, polysulfone, polyethersulfone, polyacrylate, polyallylate, polyamide-imide, thermoplastic polyimide, phenol resin, urea resin, melamine resin, alkyd resin, unsaturated polyester, epoxy resin, diallyl phthalate resin, silicon resin, and polyurethane.

6. (original) The semiconductor apparatus fabrication method as claimed in claim 2, wherein said step of forming the film includes a coating step.

7. (original) The semiconductor apparatus fabrication method as claimed in claim 1, further comprising a step of accreting a release agent on a surface of said resist pattern after the step of forming the resist pattern and before the step of forming the film.

8. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said film is an inorganic film whose melting point, which serves as said heat-resistance temperature, is higher than said softening temperature of the resist pattern.

9. (original) The semiconductor apparatus fabrication method as claimed in claim 8, wherein said inorganic film is formed in accordance with one of a coating method, a sputtering method and a plasma CVD method.

10. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said film is a metal film whose melting point, which serves as said heat-resistance temperature, is higher than said softening temperature of the resist pattern.

11. (original) The semiconductor apparatus fabrication method as claimed in claim 10, wherein said metal film is formed in accordance with a sputtering method.

12. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said resist pattern is formed as a convex pattern on said underlayer.

13. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said resist pattern has an aperture for exposing said underlayer.

14. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said underlayer is a semiconductor film.

15. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said underlayer is an inorganic insulation film.

16. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said underlayer is an organic insulation film.

17. (original) The semiconductor apparatus fabrication method as claimed in claim 1, wherein said underlayer retains an antireflection film.

18. (original) The semiconductor apparatus fabrication method as claimed in claim 1, further comprising a step of patterning a film under said underlayer by using said underlayer as a mask.